# ;login:

THE UNIX NEWSLETTER

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Address editorial material, payments, and software submission to
Melvin Ferentz
Box 8
The Rockefeller University
1230 York Avenue
New York, N.Y. 10021

Subscription requests and address changes should be addressed to
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Box 8
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1230 York Avenue
New York, N.Y. 10021



HARVARD SCIENCE CENTER
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS 02138

*Office of the Director*
*1 Oxford Street*
*617 495-2627*

March 31, 1978

Dr. Mel Ferentz
Box 8
Rockefeller University
1230 York Avenue
New York, New York 10021

Dear Mel:

I have prices for the PWB manuals. It was finally decided to divide them up as follows:

| | |
|---|---|
| PWB/UNIX User Manual (without Section 8) | $9.90 ea. |
| PWB/UNIX User Manual (Section 8 only) | $2.20 ea. |
| Documents for the PWB/UNIX Timesharing System (without sections G & I) | $8.40 ea. |
| Documents for the PWB/UNIX Timesharing Systems (Sections G & I only) | $6.00 ea. |

Purchase orders, including proof of possession of a valid license for PWB/UNIX, should be sent to:

Charles Botosh
Purchasing Agent
Science Center
1 Oxford Street
Cambridge, Massachusetts 02138

It would help if we could get some feeling for numbers required by publishing this or a suitable order form in the UNIX News Letter. Copies should be available in approximately two weeks. Let me know if you foresee any problems.

Sincerely,

Lewis A. Law
Associate Director

LAL:nds

THE UNIVERSITY OF NEW SOUTH WALES

P.O. BOX 1 • KENSINGTON • NEW SOUTH WALES • AUSTRALIA • 2033
TELEGRAPH: UNITECH, SYDNEY • TELEPHONE 663 0351
SCHOOL OF ELECTRICAL ENGINEERING EXTN.

PLEASE QUOTE

March 6th,1978.

Professor Melvin Ferentz
Box 8, The Rockefeller University
1230 York Avenue
New York NY 10021.
United States of America.

Dear Professor Ferentz,

I am writing to inform you and the readers of ";login:" that as from now, the arrangements for distribution of the booklets prepared by myself, viz. "UNIX Operating System Source Code, Level Six" and "A Commentary on the UNIX Operating System" have been changed.

It is intended that future distribution of these booklets will be made by Western Electric through Bell Laboratories under conditions which they will determine. The person to contact is, I believe:

Computer Information Service
Attention: Ms.V.J.Fortney
Bell Telephone Laboratories, Inc.
600 Mountain Avenue
Murray Hill, New Jersey 07974
United States of America.

This change has been made at the initiative of Western Electric. I welcome the change since during the last nine months, I have been carrying out an extended correspondence with many UNIX sites around the world. While sometimes onerous, this correspondence has always been most interesting. I think that you, as Newsletter Editor, would understand what is involved. During the last two weeks I have written again to many persons individually informing them of this change, and, in several cases returning checks where no corresponding non-disclosure agreement had been received so that the order could be completed. As always I would urge anyone who has not received a reply to contact me again. I am still receiving letters posted in December and forwarded by surface mail.

Yours sincerely,

John Lions

John Lions
Department of Computer Science.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

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COMPUTER CENTER

SAN FRANCISCO, CALIFORNIA 94143

March 22, 1978

Melvin Ferentz
c/o CUNY/UCC
555 W. 57th Street
NEW YORK, N.Y. 10019

Dear Prof. Ferentz:

We are now planning to bring up a PWB-UNIX system for Fall 1978 for use in the academic community at UCSF. One attractive configuration of equipment to support UNIX includes the relatively new RWM03/RM03 67 megabyte disk. While we understand that writing UNIX drivers for the new disk should not be hard, it seems hazardous to wager the successful installation of UNIX on that fact.

Has anyone written drivers for the RM03 disk? Can we acquire them? Please write, or call (collect) if you can help:

R.H. Karpinski
Computer Center
UCSF
U-76
San Francisco, Ca. 94143
415-666-4529

Yours truly,

R.H. Karpinski

R.H. Karpinski
Chief Systems Programmer

THE JOHNS HOPKINS UNIVERSITY • BALTIMORE, MARYLAND 21218

DEPARTMENT OF
ELECTRICAL ENGINEERING
BARTON HALL

Sensory Aids Lab
Barton 226
March 21, 1978

Dr. Melvin Ferentz
The Rockefeller University
1230 New York Avenue
New York, N.Y. 10021

Dear Dr. Ferentz

I am writing in reference to the upcoming Unix convention program. I am not sure if you are planning this; if you are not I would appreciate if you would pass this letter on to whomever is. I would like to urge that some time be devoted in the program to the Mini-Unix operating system.

In way of background if you are not familiar with Mini-Unix, it is a subset of Unix distributed by Bell for machines without memory management such as the 11/10. It is basically Unix with parts stripped out until it fits in 12k of memory. It does time-share, but with only one process in core at a time. Since 11's without memory management can have a maximum of only 32k, at most 16k-20k (depending on how much of the I/O page is reclaimed for memory) is left for user programs. As distributed, Mini-Unix will not run on LSI-11's because of differences in accessing the processor status word.

Here at Hopkins, we have modified Mini-Unix to run on a floppy disk based LSI-11 system. We also have added real time provisions for collecting data at high rates. This system has been running for six months in a lab enviornment serving real time needs, general computing tasks, and text processing. Total hardware cost for this system is under ten thousand. (A system is distributed from Bell called LSI-Unix that runs on LSI-11's; though last time I checked it was not given free to universities. This 8k system is so limited that I don't consider it generally useful when compared to Mini-Unix.)

I feel that Mini-Unix as modified for the LSI-11 has a potentially wide base of use becasue of the small hardware expense necessary to run it. The primary reason I would like to see it mentioned at the convention is to provide an opportunity for Mini-Unix users to become aquainted and establish a method of exchanging information with each other. Also, people not familar with Mini-Unix might like to know of the possibilities of its use.

My status at Hopkins is an engineer for the Sensory Aids Lab. I graduated here in 1976 with a bachelors. Our represenatative to the users group is Dr. W. H. Huggins; he is aware of this request.

Please contact me if something can be arranged. I would be glad to offer my time if needed.

Sincerely yours,

Arthur Hays

Arthur V. Hays

PRESIDENT AND FELLOWS OF HARVARD COLLEGE
CAMBRIDGE, MASSACHUSETTS 02138

17 Quincy Street

Prof. Melvin Ferentz
Box 8
The Rockefeller University
1230 York Ave.
New York, NY 10021

1 March 1978

Dear Prof. Ferentz,

I am writing to you on the recommendation of Mr. Steven Dyer at the Science Center here.

I have been producing catalogues for the University, using the UNIX system. The T/NROFF package has in it the capacity to switch from single column format (.1C) to double column format (.2C), a feature I make use of quite a bit. But the macros do not have the capacity to switch from a double column back to a single column without leaving the double columns unevenly placed on the page. We can remove the begin-page command from the .1C macro, but we cannot, or at least no one here has as yet been able to, rewrite the macros to produce double column output that justifies the lengths of the two columns.

I would assume that this is a problem which other UNIX users have had, and someone has probably solved. As I said, no one here seems to have the time to devote to the problem, and my own schedule requires that I produce the catalogue by the end of April. So I need help as soon as possible.

If you know of anyone who can help me, please give me a call, collect, at my office (617-495-1534) sometime next week. Mr. Dyer explained the usual procedure of publishing a request for help in the UNIX Users Newsletter, but in this case I'm afraid there is not enough time for that.

Any help will be greatly appreciated.

Sincerely,

Paul Kahn

Paul Kahn

Comp rporation of America

575 Technology Square
Cambridge
Massachusetts 02139

617-491-3670

March 13, 1978

Dr. Melvin Ferentz
Box 8
The Rockefeller University
1230 York Avenue
New York, NY 10021

Dear Dr. Ferentz:

Within the past month we received our PDP 11/70 and brought up a Unix. We will eventually be running the version of Unix being developed by BBN for government users. This system will be used to develop a prototype system for spatial (graphic) management of data.

When all the hardware arrives, we will be running with 768K bytes of core, an RP04 disk, a Ramtek GX-100B color raster scan display, a Lexidata 6400 color raster scan display, a Summagraphics data tablet, an LPS11, assorted terminals, and an Arpanet connection.

We are planning to use the RAND editor with our Datamedia Elite 1521 terminals. We are thinking of burning a new keyboard PROM to allow the use of the numeric keypad to transmit the appropriate control characters. This could be done very cheaply if enough people were interested. If so, they can contact me at the above address.

Sincerely,

Christopher F. Herot
Computer Scientist

CFH:pjt
Enclosure

# COMPUTER VISION LABORATORY

Image Analysis
Picture Processing

301-454-4526

January 18, 1978

Professor Melvin Ferentz
c/o CUNY/UCC
555 West 57 Street
New York, N. Y. 10019

Dear Professor Ferentz:

I am distributing ULISP, a LISP system modeled after the University of Wisconsin's UNIVAC 1100 LISP, and related software. ULISP, a moderate-scale, in-core implementation of LISP, operates under either the UNIX or DOS operating systems on PDP-11/45s, 11/70s, or 11/40s (with reduced capabilities). The ULISP interpreter's built-in functions provide access to the features of UNIX. If UNIX is modified (the modifications may be easily added to most existing modifications), ULISP can also support compiled LISP code and some separately assembled code. On PDP-11s which support separated I and D spaces and house modified UNIX, ULISP stores compiled code in a writable I-space area associated with each process, distinct from the pure code area. The associated modification to UNIX could also allow overlayed code in other applications. Another modification to UNIX extends the I/O capabilities of UNIX to improve ULISP reading speed. An added read system (readnl) call allows reads from block structured file systems and pipes in the same manner as from character oriented devices. When reading from block structured file systems and pipes, readnl transfers characters up to and including the first newline character, providing line-at-a-time input.

Computer Science Center, University of Maryland, College Park, Maryland 20742, U.S.A.

The ULISP system also includes utility software. LISP software adapted for ULISP includes: a Pretty Printer, an S-expression editor, a LISP function compiler, Micro-PLANNER, and MLISP. Some of the c library has been adapted for use with ULISP (sqrt, sin, etc). Additions to the c library are provided to support the system calls added by the above UNIX modifications. Some miscellaneous programs have been written in c. One program (dostape) produces DOS-PIP format tapes using the Harvard TU-10 driver. Another (trans) translates a subset of DEC's PAL-11R assembly language into the assembly language used by the UNIX assembler "as". Yet another (symtab) extracts the global entries from a load module to produce a second load module containing a symbol table but with no code or data areas. The "symbol table" load module can be used to link assembly language routines into ULISP or to create code overlays. My manual, ULISP for PDP-11s with Memory Management (TR-546, June 1977), which is in nroff format, details the use and innards of ULISP and summarizes the interpreter functions.

So that UNIX users group members may obtain the ULISP system, I enclose the following for possible publication in ;login: 1) ULISP distribution information, 2) a ULISP copyright license, and 3) a copy of TR-546 (only the abstract is for publication). I hope to attend the May 1978 users group meeting at Columbia and to demonstrate the ULISP system there, if it can be arranged.

Robert L. Kirby

Robert L. Kirby



COMPUTER VISION LABORATORY

Image Analysis
Picture Processing

301-454-4526

ULISP DISTRIBUTION INFORMATION

ULISP can be supported by PDP-11s with memory management, i.e. 11/40, 11/45, and 11/70, using either the DOS or UNIX operating systems. UNIX is the recommended operating system. In order to support LISP compiled code under UNIX, at least 80K words of primary memory should be available and the UNIX operating system will need some modification. More information is available in the manual:

> ULISP for PDP-11s with Memory Management, TR-546,
> Robert L. Kirby
> Computer Science Center
> University of Maryland
> College Park, Maryland 20742
> June, 1977.

If you want a copy of ULISP, please send:

1) A check (or purchase order) for $75.00 (US) payable to the Computer Science Center, University of Maryland for the distribution costs (no warranty or service is implied);

2) A signed copy of the ULISP copyright license which will be returned to you with my signature;

3) Choice(s) of operating system (DOS or UNIX) which will support ULISP;

4) Specifications of the density of the 9-track tape (800 or 1600 FPI) and format (UNIX "tp" format or DOS-PIP format) which will be sent containing two copies of:
   a) a load module version of ULISP,
   b) the ULISP source code,
   c) LISP software,
   d) if UNIX is to be used, UNIX modification instructions and short manuals;

5) A description of each configuration which will support ULISP.

The description will be used to create an appropriate ULISP load module. The description should include:
   a) the number of words of primary memory,
   b) the processor model (/40, /45, etc),
   c) the availability of a floating point processor,
   d) the print width (in columns) of terminals. (Give the narrowest print width of terminals which will not wrap-around when sent characters beyond the last column.)

Computer Science Center, University of Maryland, College Park, Maryland 20742, U.S.A.

TR-546 (supersedes TR-400)
MCS-76-23763 June, 1977

# ULISP for PDP-11s with Memory Management

Robert L. Kirby

Computer Science Center
University of Maryland
College Park, Maryland 20742

## ABSTRACT

A new Large scale implementation of LISP, VLISP, for the PDP-11s with memory management is described as implemented at the University of Maryland. The implementation is modelled after the University of Wisconsin's UNIVAC 1100 LISP. Four versions are available: an interpreter for use with the Virtual Operating System (VOS) being developed at the University of Maryland; a version compatible with DEC's Disk Operating System (DOS) using a VOS emulator; a stand-alone version which also emulates VOS; and a version for use with Bell Laboratories' UNIX operating system. This documentation 1) explains how to use the implementation; 2) discusses the problems, limitations, and internal configuration 3) briefly describes the available system software including a Pretty Printer, an S-expression editor, a LISP function compiler, and micro-PLANNER; and 4) provides a synopsis of the pre-defined LISP functions.

The support of the Mathematical and Computer Sciences Division, National Science Foundation under Grant MCS-76-23763 is gratefully acknowledged, as is the help of Professor Azriel Rosenfeld; Professor Chuck Rieger; Ms. Joan Weszka; Mr. Mache Creeger and Mr. Ken Hayes in the presentation of this document.

# COMPUTER VISION LABORATORY

**Image Analysis**
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**301-454-4526**


## ULISP COPYRIGHT LICENSE

I grant the licensee, (name and address)

_____

_____

_____

_____

permission to use, copy, and modify my ULISP, LISP interpreter, ULISP related software, and documentation for use by the licensee and for distribution to other ULISP copyright licensees provided that:

1) The copyright notice

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is conspicuously placed on all copies and versions including physical media used for transmission (such as magnetic tapes) and within copies of source code;

2) The interactive-mode sign-on message of the ULISP interpreter continues to include the copyright notice;

3) Copies and versions are transmitted only to the licensee or to other ULISP copyright licensees;

4) If the UNIX version of ULISP, which contains modified UNIX software, is requested, the licensee maintains a UNIX license agreement with Western Electric Corporation; and

5) A responsible agent of the licensee has acknowledged agreement to these conditions.


Robert L. Kirby
Computer Science Center
University of Maryland
College Park, Maryland 20742


Dated: _____